

44. The method, as recited in claim 43, wherein the clamping pressure provides a pressure over an entire surface of the dye carrier.

45. The method, as recited in claim 43, wherein the clamping pressure provides a pressure of at least 14 pounds per square inch.

46. The method, as recited in claim 43, wherein the clamping pressure limits warping of the substrate during the heating, cooling, and therebetween.

47. The method, as recited in claim 43, wherein the clamping pressure is provided by:
covering the dye carrier and substrate with a membrane; and
applying a pressure differential across the membrane.

48. The method, as recited in claim 43, wherein the cooling cools the substrate to a temperature which causes the substrate to be substantially rigid.

49. The method, as recited in claim 43, wherein the heating heats to a temperature of between 200° F – 600° F.

50. The method, as recited in claim 43, wherein the clamping pressure provides a pressure of between 0.25 atmospheres to 20 atmospheres.

51. The method, as recited in claim 43, wherein the clamping pressure is provided by a gas pressure differential to provide the continuous pressure.

52. The method, as recited, in claim 43, wherein the heating is to a temperature and for a period of time requisite to sublimate the image into the substrate.

53. Apparatus for forming a dye sublimation image in a first surface of a substrate with a dye carrier having an image formed thereon of a sublimatic dyestuff, the apparatus comprising:

a heater for heating the dye carrier to a sublimation temperature;

a cooler for cooling the dye carrier; and

a clamping pressure system for pressing the image formed on the dye carrier against the first surface of the substrate, wherein the continuous pressure system is able to apply a continuous pressure against the first surface of the substrate when the dye carrier is subjected to the heater and when the dye carrier is subjected to the cooler and there between.

54. The apparatus, as recited in claim 53, wherein the clamping pressure system limits shrinking, enlarging, extruding, and warping of the substrate during the heating and cooling.

55. The apparatus, as recited in claim 53, wherein the clamping pressure system uses a gas pressure differential to provide the continuous pressure.

56. The apparatus, as recited in claim 53, wherein the clamping pressure system provides a pressure over an entire surface of the dye carrier.

57. The apparatus, as recited in claim 53, wherein the clamping pressure system provides a pressure of at least 14 pounds per square inch.

58. The apparatus, as recited in claim 53, wherein the clamping pressure system limits warping of the substrate during the heating, cooling, and therebetween.

59. The apparatus, as recited in claim 53, wherein the clamping pressure system provides an even clamping force over the entire surface of the substrate.

60. The apparatus, as recited in claim 53, wherein the cooler cools the substrate to a temperature which causes the substrate to be substantially rigid.

61. The apparatus, as recited in claim 53, wherein the heater heats to a temperature of between 200° F – 600° F.


62. The apparatus, as recited in claim 53, wherein the clamping pressure system provides a pressure of between 0.25 atmospheres to 20 atmospheres.

63. The apparatus, as recited in claim 53, wherein the clamping pressure system is provided by a gas pressure differential to provide the continuous pressure.

64. The apparatus, as recited, in claim 53, wherein the heater heats to a temperature and for a period of time requisite to sublimate the image into the substrate.

Respectfully submitted,

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